Effect of Poverty on Participation in Non-Farm Activity in Ibarapa Local Government Area of Oyo State, Nigeria

Sanusi , W. A.

Department of Agricultural Economics and Extension, Ladoke Akintola University of Technology, P.M.B 4000, Ogbomoso.
e-mail:-sanusiwa@yahoo.com

Abstract

Poverty has become a major constraint to agricultural production in Nigeria, thus the need for Nigerians to venture into non-agricultural activities. This study was designed to determine the effect of poverty on participation in non-farm activities in the study area (Ibarapa Central Local Government Area of Oyo State). In order to accomplish the objectives of the study, data was collected from 120 respondents using interview schedule and the data collected was analyzed using Descriptive statistics and Inferential statistics (such as Probit model ,OLS Regression model and The Foster , Greer. Thorbecke (FGT) poverty index). This study revealed that about 85.8% of the respondents participate in one non-farm activity or the other and 85.19% of the total household income was generated as no-farm-income and this shows the importance of nonfarm activities and income among the rural households.Result of the FGT model revealed that households who earn there income from nonfarm activities are less poor by all three variants of FGT poverty measure. Within the group of households that participated in nonfarm activities, less than 45% are living below poverty line, compared to about 61% and 59% for farming households and all households respectively. Result of Probit model showed that age of respondents, years of schooling, farm size, access to credit facility, distance to market, level of urbanization and poverty status were significant determinants of participation in non farm activities while age, years of schooling, farm size, market distance, Household assets and poverty status were the determinants of earnings from non-farm activities. The study therefore recommended policies that will promote development of market and road infrastructures in order to promote nonfarm activities which will reduce poverty.

Key Words: Poverty, Participation, Non-farm Activities Rural.

Introduction

Even though Agriculture remains the main source of income and employment in most rural areas in developing countries, the rural non-farm sector has gained increasing importance over the past decades. At the start of the new millennium, roughly 25% of rural full time employment and 35% - 40% of rural income was attributed to the rural non-farm economy in the developing countries. (Haggblade et al,2002). Many small holder farm households complement their farm income with income from non-farm sources. This strategy has several advantages, especially for poorer households. Their agricultural resources are often too limited to allow efficient use of all household labour and non farm activities can offer an alternative remunerative allocation especially during the lean season. Moreover income from agriculture is subject to high risk due to climatic factors, price fluctuation, pest and

diseases. Earnings from non-farm employment may help to buffer the resulting income fluctuation and improving household security (Lanjouw and Lanjouw, 1995). These advantages for the rural poor do not necessarily mean that this group benefits most from a growing non-farm economy. In much of Africa, the share of non-farm income in total income is higher for wealthy households than for the poor due to entry barriers. (Reardon et al, 2000) As a result the non-farm economy does not reduce poverty but increases inequality instead. Focus of policy should be on improving access of the poor to existing non farm activities or in improving the profitability of these activities. In order to analyze the relation between poverty and participation in the non-farm economy, a stylized household model that covers the most relevant characteristics of rural life can be developed. The majority of households in Africa are subsistence oriented smallholder households. Labour markets are virtually absent and most households depends on self employment or on their farm using own labour resources. The proportion of farmers that have access to credit facilities is very small, the productivity of Agriculture is low and a lion share of produce is used for consumption.

Statement of Problem

In Nigeria, poverty tends to be on the increase in most rural areas due to relative increase in population and fall in income from farming activity. The income dimension of poverty defines poverty as a situation of low income or low consumption. In many rural areas, agriculture alone cannot provide sufficient livelihood opportunities. Rural non-farm activity can play a potentially role in reducing rural poverty. Previous studies like Ellis (1998a), Barrett and Reardon (2000), Reardon el al (2000), indicate the importance of non farm enterprises to rural incomes. Research has also shown that household earns more income from rural non-farm activities than from farm activities in many developing countries.

Poverty also pushes household to the non farm sector as they cannot profitably employ all family labour in agricultural production, despite the importance of farm activity in the economy. In recent times, the level of poverty in the rural area has risen so dramatically that it affects the farm activities and incomes at such places. Rural infrastructure in Nigeria has long been neglected while investments in health, education and water supply have largely been focused on the cities. This research was therefore design to analyze the effect of poverty and other variables on participation in nonfarm activities in rural area of ibarapa local government(a rural area) of Oyo state, Nigeria.

The specific objectives are to,

i. Determine the types of non-farm activities engaged in by households in the study area.
ii. Determine the proportion of non-farm income in overall household income in the study area.
iii. Examine the poverty profile of households in the study area.
iv. Examine the determinants of participation in non-farm activities and income.

Research Methodology

The study area

This study was carried out in Ibarapa Central Local Government area of Oyo state. This Local Government area has ten(10) political wards. It is homogenous comprising mainly the people of the Yoruba ethnic group who speak the Yoruba language, located between $7^{0}15^{1}$ north and$3^{0}30^{1}$ East of the equator, boarded by Ibarapa north local government area in the north and Ibarapa east in the east, Republic of Benin in the west and Ogun State in the south. This location enjoys the wet and dry seasons, average annual rainfall is estimated at 1,278mm while sunshine hours ranges from 2.4 hours in August to 7 hours in February, average temperature of 27^{0}C. Based on the prevailing climatic and soil characteristics, three vegetation zones are identified in the area, these are Forest, Savanna and Derived savanna. The forest zone with high relative humidity favours the cultivation of tree crops such as cocoa, kolanut, citrus and oilpalm as well as arable crops like yam, cassava, maize and rice. The derived savanna has a mixture of forest and savanna vegetations.

Sampling procedure and sample size

Multistage sample technique was adopted for the project. First stage involves random selection of three political wards from the ten in the local government area. Second stage involves systematic selection of forty household from each chosen ward and this give a total of 120 households selected for the study.

Method of data collection

Primary data was used for the study. Interview schedule was used to collect the data from each of the selected household head in the study area.

Data Analysis

Descriptive statistic like frequency count, percentage, standard deviation and means were used while FGT poverty index, Probit model and ordinary least square multiple regression model were employed as inferential statistics.

Analytical technique

Model specifications

Poverty indices of households were accessed by the use of The Foster, Greer. Thorbecke (FGT) poverty index (1994).

The basic formula for this measure is given as

$$P_{(\alpha)} = \frac{1}{n}\sum_{i=1}^{q}\left[\frac{Z - y_i}{Z}\right]^{\alpha}$$

Where y_i = the income of the ith person/ household

q = the number of person with income below the poverty line (z)

n = the total number of persons.

z = the poverty line

α = the FGT parameter which takes the values O, 1 and 2 depending on the degree of concern about poverty.

Probit model was used to analyze the determinants of participation in nonfarm activities. While ordinary least square (OLS) regression model of semi log functional form was used to analyzed determinants of nonfarm income or earnings

The equation is given as,.

$q_1 = X_1\beta + e_i$

Where:

q_1 = 1 if household participate in non farm activity

q_1 = 0 if otherwise

Lnq1= log of nonfarm income or earnings

X_I = explanatory variables included in the models.

β = Regression coefficients,

Included explanatory variables are,

Poverty status (poor = 1, non poor = 0)

Age of household head (years)

Sex (male =1, female = 0)

Education (years of schooling)

Marital status (Married =1, Otherwise = 0)

Experience (Years)

Farm Size (Ha)

Access to credit (access =1, otherwise =0)

Household size

Social organization (member =1, 0 nonmember)

Market distance (Km)

Urban Residency (urban residency =1, otherwise = 0)

Migrant (yes = 1, no = 0)

Household Assets (values in naira)

Result and Discussion

Distribution of respondents based on major occupation

Respondents participated in various occupations in the study area, Table1 shows that10.8% of the sampled household head are Crop farmers, 3.4% are Livestock farmers, 48.3% are Salary earners, 9.2% are Artisans, 8.3% are Traders, and 19.2% are into Private businesses while 0.8% are Farm workers. It can be deduced that majority of the respondents are salary earners as shown in table 1.

Table 1: Distribution of respondents based on major occupation

OCCUPATION	FREQUENCY	PERCENTAGE
Crop farming	13	10.8
Livestock farming	4	3.4
Salary job	58	48.3
Artisan	11	9.2
Trading	10	8.3
Private business	23	19.2
Farm work	1	0.8
Total	120	100.0

Source: Field Survey, 2009

Distribution of Respondents Based on Participation in Farm and Non Farm Activity

The farm and the non-farm activities engaged in by rural households in the study area are shown in Table 2.About 14.2% of the respondents are into farming activities while 85.8% are into one non-farm activity or the other. It can be deduced from the table that majority of the respondents are into non-farm activity and this emphasized the growing importance of non farm activities in the rural economy and also agree with findings of Babatunde (2008) that in Nigeria, almost 90 per cent of all households have at least some off-farm income and on the average.

Table 2: Distribution of respondents based on participation in farm and non farm activity

ACTIVITY	FREQUENCY	PERCENTAGE
Farm	17	14.2
Non-farm	103	85.8
Total	120	100.0

Source; Field Survey, 2009

Non-Farm Activities Engaged in by the Rural Households

The different types of non farm activities engaged in by the rural households in the study area are shown in Table 3. Non-farm activities engaged in includes; Artisans (Tailoring Blacksmiths, Mechanics, Hair dressing etc) which accounted for 10.7% of respondents, Trading, Salary job, Private business, Farm work accounted for 9.7, 56.3, 22.3 and 1.0% respectively. The distribution clearly shows that salary job is the most important source of non-farm activities in term of employment generation.

Table 3: Distribution of respondents based on Various Non-Farm Activities

NON-FARM-ACTIVITY	FREQUENCY	PERCENTAGE
Salary job	58	56.3
Artisan	11	10.7
Trading	10	9.7
Private business	23	22.3
Farm work	1	1.0
Total	103	100.0

Source: Field Survey, 2009

4 Distribution of respondents based on source of income.

Table 4 shows that one million, one hundred and twenty six thousand naira only (#1,126,000) was generated from farming activity by respondents in the

study area while six million, four hundred and seventy nine thousand naira only (#6,479,000) was generated from non-farm activity per years by the respondents. Among various sources of non-farm income, salary job and private business were the most important sources in term of income generation and accounted for 40.9% and 36.2% of total non farm income respectively.

Table 4: Distribution of respondents based on source of income

INCOME SOURCE	SUM OF INCOME (#)	STANDARD DEVIATION
Crop farming	643,000	22138.46
Livestock farming	483,000	18701.62
Total farming income	**1,126,000**	**40840.08**
Salary job	2,651,000	31894.40
Artisan	442,000	13429.76
Trading	876,000	22930.76
Private business	2,345,000	75510.39
Farm work	165,000	6408.56
Total Nonfarm Income	**6,479,000**	**191013.95**
Total Income	**7,605,000**	**231854.03**

Source: Field survey, 2009.

4.4 Proportion of Non Farm Income in Overall Household Income

The total household Income of respondents tells us the total amount earned by respondents both from farm and non farm income. Table 5 shows that 85.7% of the total income was earned through nonfarm activities while the remaining 14.81% was earned through farming activities and this confirm that nonfarm income is an important income generating activity in rural livelihood diversification.

Table 5: Proportion of non-farm income in overall household income

OCCUPATION	SUM OF INCOME	PERCENTAGE
Non farming	6,479.000	85.19
Farming	1,126,000	14.81
TOTAL	7,605,000	100.0

Source: Field Survey, 2009

Poverty profile of Respondents

The FGT model was used to examine the poverty profile of the households in the area. In order to achieve this, a poverty line was established using two-third of per capita income (a relative poverty line), and this was estimated to be #14287.25.

Table 6 shows that households who earn there income from nonfarm activities are less poor by all three variants of FGT poverty measure. Within the group of households that participated in nonfarm activities, less than 45% are living below poverty line, compared to about 61% and

59% for farming households and all households respectively. The poverty gap is also smaller for households engaging in nonfarm activities, the average poor households income fall only 24% below the poverty line compared to 35% and 30% respectively for farming households and all households. Finally poverty is less severe for non-farming households as revealed in table 6.This findings was in agreement with Fields, (1998) that poverty in most developing countries is linked to agriculture, most of the poor live in rural areas, and they depend on agriculture for their income, directly in case of farmers and agricultural workers or indirectly in case of self-employed workers engaged in trade, services, agro-processing and other non-farm activities that cater largely for rural demand.

Table 6: Poverty measurement by FGT model

	P_0	P_1	P_2
All households	0.592	0.296	0.148
Farming HH	0.613	0.347	0.165
Non-farming HH	0.445	0.236	0.121

Source: field survey, 2009

The Determinant of participation in non-farm activity.

As shown in table 7, out of fifteen variables included in the model, only eight variables were significant at different levels. Log likelihood value of -27.101 and chi square value of 17.238 which is significant at 1% level of significance indicate that the model had a good fit to the data. Age of the household head, his year of schooling, migration status, poverty status and urban dummy were positive and significant. This shows that as the age and years of schooling of the household head increases, the likelihood of him or her participating in nonfarm activities also increases. Migration status which is positive and significant implies that migrants were more likely to participate in nonfarm activities than nonimmigrant. Poverty status dummy which is positive and significant imply that poorer household head are more likely to participate in nonfarm activity than non-poor household head which showed that diversification into nonfarm activity is more due to distress-push factors rather than demand-pull diversifications. Urban resident dummy is also positive and significant showing that the households residing in urban area are more likely to participate in non-farm activity than those residing in rural area. In contrast to the above findings, size of farm land, access to credit and market distance were negative but significant showing that as the farm size of the household increases the probability of participating in nonfarm activity reduces. Also household who have access to credit are more likely to ventures into farming activity and the farther away the household residence to the market the less likely his tendency of participating in nonfarm activity.

Table 7: Determinant of participation in non-farm activities

Variable	Coefficient	t-value	p-value	Significant
Constant	28.223	2.242	0.032	5%
Age	3.781	1.998	0.021	5%
Sex	-332.410	-0.728	0.956	N.S
Yr of education	0.217	3.102	0.008	1%
Marital status	0.139	0.401	0.728	N.S
Experience	7.372	1.036	0.214	N.S
Size of land	-5.901	-1.972	0.077	10%
Access to credit	-12.182	-2.013	0.028	5%
Household size	-0.424	-0.983	0.361	N.S
Social- organization	2.781	1.520	0.210	N.S
Market distance	-6.137	2.911	0.009	1%
Urban Resident	0.937	1.983	0.048	5%
Migration status	-3.34	-1.204	0.571	N.S
Household Asset	-0.089	-0.973	0.739	NS
Poverty level	1.743	2.131	0.075	10%
Number of observation	= 120			
Log livelihood value	= -27.101			
Chi-square	= 17.238***			

Source: field survey, 2009

The Determinants of earning from non-farm income

Five types of non farm activity had been identified with the people in the study area. These people earn their income or part of their income from these non farm activities.

Semi log functional model was adopted to modeled nonfarm earning and coefficient of determination (R^2) value of 0.993 is showing that the model was able to explain about 99.3% variation in non farm earning. F value of 9.713 which is significant at 1% is showing the goodness of fit of the model. Out of fifteen independent variables included in the model, only six (6) were significant at different levels of significant, year of schooling and poverty status of the household were positive and significant showing that as the education level of household head increases , earning from non farm activity also increases, poverty status dummy which is also positive and significant is showing that those household who are poor earn more income from non farm activity. Age of household head is negative but significant showing that as the age of respondent increases he earns lesser income from non farm activity. Size of land was also negative and significant showing that the more the size of land of the household the less the income earns from non farm activity and the more the earning from farming activity. Market distance is significant and negative showing that the farther the household residence is to the market, the lesser the income earns from non farm activity. Household asset was positive but significant showing that the more the asset of the household the more the income earned from non farm activity, this is because household asset can be invested in nonfarm activity to generate nonfarm income.

Table 8: Determinants of earning from non-farm Activity

Variable	Coefficient	t-value	p-value
Constant	7.484131808	4.973	0.0000
Age	-2.291061759-E	-1.975*	0.0673
Sex	.8755381164	1.515	0.1318
Yr of education	.8492681215	1.745*	0.0839
Marital status	-.5815786143	1.154	0.2512
Experience	.1086034294	0.374	0.7091
Size of land	-.7972761642	-2.112**	0.0371
Access to credit	.3038305941	0.163	0.8711
Spouse income	-1677904690	1.231	0.2210
Household size	.5460621735	0.547	0.5853
Social organization	-.3952933628	-0.649	0.5177
Market distance	-.5257874536	2.957***	0.0079
Level of urban	-.4913075845	-0.909	0.3656
Migration status	.5719542267	1.142	0.2561
Household Asset	.3249320653	2.388**	0.0187
Poverty level	.8177124286	3.047***	0.0029

Source: field survey, 2009

$R^2 = 0.993$

F-value = 9.713***

*** Significant at 1%, ** Significant at 5%, * Significant 10%

Conclusion

From the result of the study, the following conclusions could be drawn;

1. 85.8% of the households in the study area participate in one form of nonfarm activity or the other and this accounted for 85.12 % of the total income generated by sampled households. This emphases the importance of nonfarm activities and income in rural economy .
2. Participation in nonfarm activities reduces household poverty level as revealed by FGT poverty measure.
3. Poverty status of the households, age, level of education, and some other salient variables are the major determinants of participation in nonfarm activities.

Recommendations

Education status is an important variable in determining the participation of people in non-farm activities. Government should therefore encourage education in the rural areas and the nation at large through appropriate policies that will promote education.

Access to credit facility is also an important factor in determining participation of rural people in nonfarm activities, Government should make appropriate policies that will make credit available and accessible to the rural people.

Since market distance is also a

determining factor, Government should therefore provide low cost marketing infrastructure for the rural poor households in order to aid participation in nonfarm activities.

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